

CALIFORNIA MICROLEPIDOPTERA *

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GELECHIIDÆ

Recurvaria bacchariella Keifer, new species

The ground color of this species is cream white; this is overlaid with shades varying from fuscous to black, usually as a band across each scale just below the tip. To the unaided eye the fore wings are almost immaculate, especially the females. The apical fascia and scale tufts with black dots are the most conspicuous features under a glass. The holotype is as follows:

Palpi cream white, second joint somewhat rough and broadly expanding toward apex, truncate, suffused outwardly and below, except at base and faintly in middle with fuscous. Terminal joint short, arising from above center of truncate tip of second, blackish fuscous annulæ somewhat above base and barely below tip. Head light cream white, smoother on face but becoming rather rough above; face only slightly overlaid with fuscous except laterally; head above more evenly overlaid. Basal joint of antennæ heavily overlaid with dark fuscous, stalk annulate with fuscous. Thorax and fore wings cream white overlaid with fuscous, becoming black in some places on the wings. Fore wings with very indistinct markings but with five noticeable scale tufts. A tuft at basal fourth just below fold cream white, inwardly edged with blackish spot; a very faint outwardly oblique fascia, inwardly edged blackish, from costa, passing and disappearing just in front of tuft; at basal fourth just within costa a faint black spot. Just before middle of wing two opposite scale tufts; lower one on fold edged inwardly with blackish spot; upper one slightly above center of disk, edged costally with blackish, followed by a faint blackish spot; above these and slightly toward base on costa a faint blackish spot. At apical third two more opposite scale tufts, edged inwardly with blackish and connected by a cream white fascia; faint blackish spots costally and apically located from these tufts. From center of wing almost directly below origin of costal cilia a cream white inwardly oblique fascia to tornus. A small black spot on apex preceded by one on costa and two evenly spaced spots on termen. Just beyond these terminal spots a blackish fuscous line on basal part of cilia. Dorsal cilia very light fuscous on ground color. Hind wings light fuscous, cilia as in fore wings but with an ochreous tinge. Legs cream white overlaid with dark fuscous; hind tibiæ with a fuscous line on outer side from base to middle spurs, rest overlaid with fuscous. Tarsal joints on all legs cream white on tips and inwardly. Alar expanse: male, $13\frac{1}{2}$; female, $12\frac{1}{2}$ mm.

* Contribution from the California Academy of Science, No. 382.

Holotype, male No. 2454, and allotype, female, No. 2455, Mus. Calif. Acad. Sci., reared from larvæ on *Baccharis pilularis* in San Francisco, California, by the writer, August 25 and September 14, 1926, respectively. Five paratypes, males and females, from same locality, dating from August 10 to September 20, 1926. The larvæ feed in the terminals destroying the bud and boring a short distance into the stem. They live concealed in a short silken gallery often covered with dead leaves.

Agnippe crinella Keifer, new species

This species, of which the following description is based on four males, is quite close to Busck's *A. evippella* according to that description, but has differences on the palpi, antennæ and fore wings, and is slightly larger.

Labial palpi white; second joint lightly dusted with blackish fuscous on inner side, heavily overlaid outwardly; terminal joint with black annulus just above base, tip black. Antennæ with basal joint white below, fuscous above; stalk fuscous, alternating darker and lighter annulæ. Head shining white; sides of face and vertex mottled with black. Thorax whitish, heavily overlaid with dark fuscous; tegulæ same, with ochreous tinged tips. Fore wings whitish overlaid with dark fuscous; basal two-thirds darker on costal side of fold (blackish), lighter dorsally, merging into apical third, which is evenly dusted, intermediate. Costal and dorsal areas separated by a narrow wavy white line generally on or near fold. Darker costal area produced across fold onto dorsum in a blunt lobe near base and a second, larger, just before middle. Between these lobes the separation line is ochreous tinged. This line ends in an ocellate-like spot (distinct in one), blackish center, on apical part of discal cell. Cilia from tornus and dorsum white. Hind wings light grayish fuscous, ochreous at apex; cilia whitish fuscous. Abdomen whitish, overlaid with fuscous except anal tuft. Legs white, barred and mottled with fuscous; on middle and hind tarsi with black. Expanse, 9 to 9½ mm.

Holotype, male, No. 2456, Mus. Calif. Acad. Sci., taken at Oroville, California, by the writer, July 15, 1926. Three male paratypes with the same data, also in the collection. These males have a long hair pencil on the base of the hind wing costa.

GELECHIA PANELLA Busck

This species is found occasionally at Mill Valley, Marin County, California. It has been taken there in February, March, April, August, September, October. There is also a specimen from Placer County and another from Los Angeles in the

collection. The determination is through the kindness of Miss Braun.

GELECHIA OCCIDENTELLA Chambers

A very common Gelechiid in Marin County, especially in the late autumn. Indications seem to show that the winter is passed in the adult stage. Specimens in this collection range from San Mateo County to Inverness, Marin County, California.

A large series of this species has been reared from live oak, *Quercus agrifolia*, by myself, the larvæ collected in San Francisco. These larvæ were found from late June to late August. They live in a slight silken web among the leaves in the rearing jars and skeletonize the leaves. Pupation takes place in a very loose cocoon, which is likely spun in crevices of the bark or in trash. Adults emerged from September 7 to 27, 1926. The determination is by Miss Braun.

GNORIMOSCHEMA CHENOPODIELLA Busck

Chenopodium murale is heavily infested with this species in the Park in San Francisco. The larvæ live concealed in folded leaves and in the inflorescences. Miss Braun notes that these adults possess more black on the apical part of the wing than do eastern specimens.

MICROPTERYGIDÆ

MNEMONICA CYANOSPARELLA (Williams)

Eriocrania cyanosparsella (Williams), Ent. News, XIX, p. 14, 1908.

On March 31 and April 1, 1926, a heavy infestation of a leaf-miner was noticed on live oak, *Q. agrifolia*, in Golden Gate Park, San Francisco. These miners were in the new spring leaves, which were nearly full size. The entire substance between the upper and lower epidermis was eaten away often involving the whole leaf.

In these mines were peculiar larvæ, somewhat elongate, stiffly bending themselves from side to side when disturbed. They soon went into the sand and formed small white cocoons.

A number of adults, emerging from December 6, 1926, to January 10, 1927, prove this species to be *Mnemonic cyanosparsella*. The tree was heavily infested, undoubtedly an important factor in stunting it, as a large proportion of the leaves were attacked.